

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 October 2003 (02.10.2003)

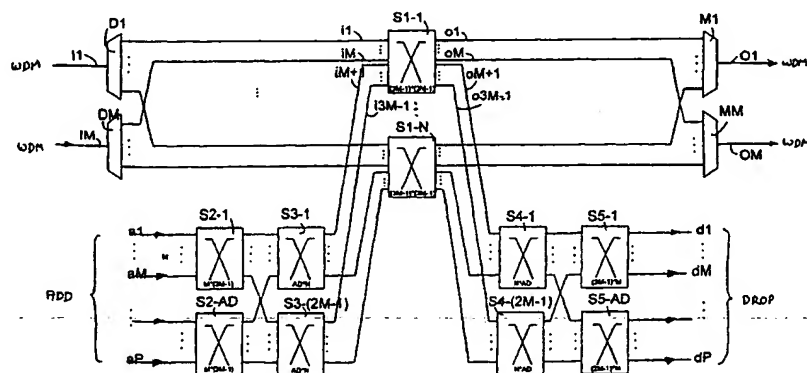
PCT

(10) International Publication Number
WO 03/081944 A1

- (51) International Patent Classification⁷: **H04Q 11/00** (74) Agent: COLLIER, Ian, Terry; Marconi Intellectual Property, Marrable House, The Vineyards, Great Baddow, Chelmsford, Essex CM2 7QS (GB).
- (21) International Application Number: PCT/IB03/01469
- (22) International Filing Date: 18 March 2003 (18.03.2003) (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
102 13 133.3 23 March 2002 (23.03.2002) DE (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
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- Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: OPTICAL CROSS-CONNECTOR CONTAINING A MULTI-STAGE CLOS NETWORK IN WHICH A SINGLE-STAGE MATRIX COMPRISES ONE STAGE OF THE CLOS NETWORK



(57) Abstract: A wavelength division multiplex (WDM) optical cross-connect (OXC) has a plurality ($N \times M$) of input and output channels ($i1$ to iM ; $o1$ to oM) for through traffic. A first group of optical switching matrices ($S1-1$ to $S1-N$) is provided for connecting the through traffic input channels ($i1$ to iM) to the output channels ($o1$ to oM), wherein each through traffic input channel ($i1$ to iM) is connected to an input of a switching matrix ($S1-1$ to $S1-N$) of the first group and each through traffic ($o1$ to oM) is connected to an output of the switching matrix ($S1-1$ to $S1-N$). Additionally a plurality (P) of input channels ($a1$ to aP) and/or output channels ($o1$ to oP) is provided for adding/dropping traffic. Each add/drop input/output channel ($a1$ to aP , $o1$ to oP) is connected to an input/output of a second group of switching matrices ($S2'-1$ to $S2'-AD$). The outputs/inputs of the second group of switching matrices are connected to inputs of a third group of switching matrices ($S3-1$ to $S3-(2M-1)$) or outputs of a fourth group of switching matrices ($S4-1$ to $S4-(2M-1)$) and the outputs/inputs of the third/fourth group of switching matrices are connected to inputs/outputs of the first group of switching matrices such that the switching matrices of the second, third and first groups of the first, fourth and second groups each form a Clos network.

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